

Title (en)

Integration of optical area monitoring with industrial machine control

Title (de)

INTEGRATION EINER OPTISCHEN BEREICHSÜBERWACHUNG MIT INDUSTRIEMASCHINENSTEUERUNG

Title (fr)

INTÉGRATION DE CONTRÔLE DE LA ZONE OPTIQUE AVEC COMMANDE DE MACHINES INDUSTRIELLES

Publication

EP 2947604 B1 20191023 (EN)

Application

EP 15168239 A 20150519

Priority

- US 201462000487 P 20140519
- US 201414553431 A 20141125

Abstract (en)

[origin: EP2947604A1] An industrial safety system is provided that integrates optical safety monitoring with machine control. The safety system includes an imaging sensor device supporting pixel array processing functions that allow time-of-flight (TOF) analysis to be performed on selected portions of the pixel array, while two-dimensional imaging analysis is performed on the remaining portions of the array, reducing processing load and response time relative to performing TOF analysis for all pixels of the array. The portion of the pixel array designated for TOF analysis can be pre-defined through configuration of the imaging sensor device, or can be dynamically selected based on object detection and classification by the two-dimensional imaging analysis. The imaging sensor device can also implement a number of safety and redundancy functions to achieve a high degree of safety integrity.

IPC 8 full level

B23Q 17/24 (2006.01); **F16P 3/14** (2006.01); **G06V 10/80** (2022.01)

CPC (source: CN EP US)

F16P 3/142 (2013.01 - EP US); **G05B 9/03** (2013.01 - EP US); **G05B 19/042** (2013.01 - CN); **G05B 19/048** (2013.01 - US); **G06F 18/24** (2023.01 - US); **G06F 18/25** (2023.01 - EP US); **G06T 7/579** (2016.12 - EP US); **G06T 7/60** (2013.01 - US); **G06T 7/73** (2016.12 - EP US); **G06V 10/80** (2022.01 - EP US); **G06V 20/52** (2022.01 - US); **G06V 20/64** (2022.01 - EP US); **G06V 40/10** (2022.01 - EP US); **G06V 40/103** (2022.01 - US); **H04N 7/18** (2013.01 - US); **G05B 2219/14006** (2013.01 - US); **G06T 2200/04** (2013.01 - EP US); **G06T 2207/10016** (2013.01 - EP US); **G06T 2207/10028** (2013.01 - US); **G06T 2207/30108** (2013.01 - US); **G06T 2207/30164** (2013.01 - US); **G06T 2207/30196** (2013.01 - EP US); **G06T 2207/30232** (2013.01 - EP US); **G06T 2207/30241** (2013.01 - EP US); **G06T 2207/30261** (2013.01 - EP US)

Cited by

US2024126839A1; EP3421191A1; EP3421189A1; US12039792B2; WO2022034389A1; TWI746357B

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 2947604 A1 20151125; **EP 2947604 B1 20191023**; CN 105094005 A 20151125; CN 105094005 B 20181123; US 2015332463 A1 20151119; US 2016070991 A1 20160310; US 9256944 B2 20160209; US 9477907 B2 20161025

DOCDB simple family (application)

EP 15168239 A 20150519; CN 201510257307 A 20150519; US 201414553431 A 20141125; US 201514943246 A 20151117